Remarks

Claims 1 to 9 remain standing in this application.

Claim 1 currently stands as being rejected under 35 USC 112, as being indefinite for use of the phrase "mixtures and combinations thereof". Applicant concedes the point made by the Examiner as to "Mixtures thereof and combinations thereof mean the same thing;", and appropriate amendment has been made accordingly. As to the typographical errors cited in claim 6, correction has been made to the spelling of "glycemic", "ingredient", and "bicarbonate".

With these amendments, the Applicant contends that the objections raised under 35 USC 112 have been obviated.

Additionally, however, a review of the application has revealed several minor typographical errors in paragraphs 6, 14, 30, and 50 as published. Minor corrections have been made accordingly, and these are set out hereinabove.

Rejection under 35 USC 103(a)

Claims 1 to 9 currently stand as being rejected under 35 USC 103(a) as being obvious in view of cited prior art. The Applicant respectfully traverses these rejections.

In particular, it appears that the Examiner has indulged in two conceptual errors in reading the claims presented in this application and in comparing those to the cited principal reference to Chaudhary -- the 4341805 patent. Specifically, the Examiner has apparently jumped to the conclusion that the present inventor is just taking a brewing or distilling by-product per se, whereas in fact the brewing or distilling by-product may very well require treatment in order to attain the claimed formulations set forth in the claims of this application. Moreover, the Examiner appears to have been highly selective, somewhat in error, in choosing teachings from the cited '805 patent so as to attempt to fit the facts rather than to accept the facts as they are set forth both in the present application and in the cited patent.

For example, the Examiner ignores the teachings in published paragraphs 49 and 50 of the present application, wherein it is specifically taught that if the fiber-based baking ingredient of the present invention is to be employed as a low moisture baking additive then it will be relatively high in fiber and protein, and low in moisture; whereas if it is to be employed as a high

moisture baking additive then it will be relatively low in fiber, high in protein and high in moisture. This does not suggest fractionation; it merely teaches that the moisture content of the fiber-based baking ingredient will be adjusted. There is no contemplation of fractionation and the by-products of the brewing or distilling industries from which the fiber-based baking ingredients of the present invention are initially derived. Moreover, in each instance, the product of the present invention is for use as a baking additive or ingredient by the baking industry, nothing else.

This, it appears that the Examiner ignores the fact that the cited patent requires that the brewer's spent grain must be fractionated or separated into several fractions, being the finest fractions which have the highest percentage of protein, or the coarsest fractions which contain the highest percentage of dietary fiber. The patent teaches that the highest dietary fiber fraction contains about 70% dietary fiber and about 20% protein; whereas the highest protein fraction contains 39% to 42% protein and 30% to 40% dietary fiber. True, the patent teaches that the high fiber fractions are used to prepare food products, but those are extruded food products such as raisin bran, which are not baked products per se. Moreover, the patent teaches the inclusion of only 25% of the fiber fraction by weight of the dried ingredients in an otherwise unrevealed recipe for raisin bran.

The Examiner declares that the cited patent teaches a product which is a "high dietary fiber product [which] comprises 70% fiber, 5.8% crude fat and about 20% protein." The Examiner then dispositively states that this product "is used to prepared (sic) extruded food product such as raisin bran" in the amount of 25%, or in the amount of 15% to make baked products such as bread.

Table I of the cited patent shows six analyses of fiber food products. The one that the Examiner appears to have chosen is that of high fiber fraction of spent grain which, however, in fact discloses dietary and crude fiber content of 83.5%, 5.8% crude fat, and 21.5% protein. This is not, it is suggested, a teaching of "70% fiber" or a teaching of "about 20% protein".

The analysis for whole spent grain shows 29.9% protein and 66% dietary and crude fiber, with 7.2% crude fat. The remaining analyses fail by being either to high or too low in either protein or total fiber content.

Apart from the mention of the use of the high fiber fraction in baked products, the cited patent suggests the use of high fiber fractions in extruded food products, and high protein fractions in snack and baked products. The purpose of the present invention is to provide a nutritional and energy reduced fiber-based baking ingredient which is intended for use by the baking industry. The product of present invention has very specific formulations, namely that it contains from 20% to 30% crude protein, from 50% to 80% fiber, with up to 15% crude fat and up to 2% of additional nutritional components.

However, the present invention clearly discloses the necessity to adjust pH of the baking ingredient depending on its purposes, contrary to the allegations that seem to be being made by the Examiner. Applicant disputes the statement that "the specification does not disclose adding anything to alter the pH.", because, several references are made such as at published paragraphs 36, 37, 44 to 46, and 51, for example. Those teachings cannot be made more plain or more clear. The fiber-based baking ingredient may have its pH level adjusted to the range of 7.0 to 11.5 by using an alkali which is ingestible by humans, such as sodium bicarbonate. Whether the pH level is adjusted to become neutral or alkaline, or is permitted to remain acidic, is a matter of the use to which the spent grain is to be put. The acid level can be kept high, or can be neutralized such as by using sodium bicarbonate or baking soda. Initially the fiber-based baking ingredient may have a pH in the range of 2.5 up to 6.9; but it may be adjusted to the range of 7.0 up to 11.5. It appears that the Examiner is making suggestions after the fact, once having read the present disclosure which leads the Examiner to the comments being made. Thus, the Examiner is applying the applicant's own teachings against the applicant.

The Examiner appears to have dismissed the cited patent 5225228 except as being pertinent (presumably, meaning of interest) to the present disclosure, and applicant agrees.

Consequently, the Applicant respectfully submits that the factual inquiries enumerated by the Examiner fail in that:

1. The scope and contents of the prior art differ from that of the present disclosure.

2. There are significant differences between the prior art and the claims at issue.

3. The level of ordinary skill in the pertinent art is absent, except upon hindsight having read the present disclosure.

4. The Examiner has completely overlooked significant objective evidence in the present application and has, instead, applied hindsight after having read the present disclosure.

It cannot be seen how any person skilled in the art would be led to the present invention upon reading the cited patent 4341805. It cannot be seen how the ordinary person skilled in the art would read the claims of present application as if those claims proposed the use of a by-product from the brewing or distilling industries without appropriate manipulation to obtain the formulations claimed herein.

It is noted that the claimed fiber-based baking ingredient is derived from specified cereal grains, namely wheat, barley, rye, corn, rice, oats, flax, and mixtures thereof; and that the claimed fiber-based baking ingredient is initially derived as a by-product from the brewing or distilling industries. But the fiber-based baking ingredient is intended for use solely by the baking industry, and has specific ranges of protein, fiber, crude fat, and additional nutritional components. Yes, the fiber-based baking ingredient has a reduced glycemic index which comes as a result of the fact that, following the fermentation process prior to the brewing or distilling step, a substantial portion of the energy of the grains has been taken and what remains is a grain from which the energy has been removed but which still retains protein, fiber, fat, and other nutritional components. It is a recognition of that fact, coupled with the recognition that the fiber-based baking ingredient must have specific ranges of those protein, fiber, crude fat, and nutritional components, which distinguishes this invention from the prior art.

Accordingly, reconsideration and allowance of the present application at the earliest opportunity are respectfully solicited.

It is believed that with these comments, a full and complete response to the Office Action has now been submitted. Further, it is believed that the present application is now in condition for allowance.

However, should there be any remaining issues, or issues requiring further clarification, the Examiner is requested to contact the undersigned by telephone in order to discuss or clarify any outstanding issues.

Respectfully submitted,
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